

We claim:

1. An optical arrangement, comprising:
 a light source that emits radiation,
 a mount,
 an optical element fastened in said mount,
 wherein said optical element is acted on by said radiation such that a
 heat supply results from said radiation that lacks symmetry
 corresponding to the shape of said optical element, and
 a connecting structure between said optical element and said mount,
 having a symmetry characteristic that does not correspond to the
 shape of the optical element.
2. An optical arrangement, comprising:
 a light source that emits radiation,
 a mount,
 an optical element fastened in said mount,
 wherein said optical element is acted on by said radiation such that
 heat that results from said radiation lacks symmetry corresponding to
 the shape of said optical element, and
 a single- or multi-part thermally conducting element arranged in
 operative connection with said optical element and said mount and

transmitting element comprises a lens.

7. The optical arrangement according to claim 2, in which said optical element comprises a transmitting element.
8. The optical arrangement according to claim 7, in which said transmitting element comprises a lens.
9. The projection exposure system according to claim 3, in which said optical element comprises a transmitting element.
10. The projection exposure system according to claim 9, in which said transmitting element comprises a lens.
11. The projection exposure system according to claim 4, in which said optical element comprises a transmitting element.
12. The projection exposure system according to claim 11, in which said transmitting element comprises a lens.
13. The optical arrangement according to claim 1, in which said optical element comprises a mirror.
14. The optical arrangement according to claim 2, in which said optical element comprises a mirror.
15. The projection exposure system according to claim 3, in which said optical element comprises a mirror.
16. The projection exposure system according to claim 4, in which said

optical element comprises a mirror.

17. The optical arrangement according to claim 1, having a slit-shaped image field.
18. The optical arrangement according to claim 2, having a slit-shaped image field.
19. The projection exposure system according to claim 3, having a slit-shaped image field.
20. The projection exposure system according to claim 4, having a slit-shaped image field.
21. The optical arrangement according to claim 5, in which said optical element is arranged near a field plane.
22. The optical arrangement according to claim 7, in which said optical element is arranged near a field plane.
23. The projection exposure system according to claim 9, in which said optical element is arranged near a field plane.
24. The projection exposure system according to claim 11, in which said optical element is arranged near a field plane.
25. The optical arrangement according to claim 1, further comprising a reticle, the illumination of which lacks rotational symmetry.

Sub 26. The optical arrangement ~~according~~ to claim 25, in which said reticle

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34. The projection exposure system according to claim 32, in which said optical element is arranged near a pupil plane.
35. The optical arrangement according to claim 1, in which said connecting structure comprises portions of different materials.
36. An optical arrangement comprising:
a light source that emits radiation,
a mount,
an optical element fastened to said mount,
wherein said optical element is acted on by said radiation such that heat that results from said radiation lacks symmetry corresponding to the shape of said optical element, and
a single- or multi-part passive thermally conducting element arranged in operative connection with said optical element and said mount and having a form of heat transport that effects an at least partial compensation of the asymmetry of temperature distribution in said optical element,
wherein said passive thermally conducting element comprises an assembly of portions of different material.
37. A projection exposure system for microlithography, comprising:
an optical element that is heated by radiation in a manner that lacks

rotational symmetry, and

a cooling system for said optical element that lacks rotational symmetry, said cooling system including passive thermally conducting devices that effect cooling,

wherein said passive thermally conducting devices comprise portions of different material.

38. The projection exposure system according to claim 4, in which said at least one part of a thermal conductor in thermal contact with said optical element comprises a plurality of different materials.
39. The optical arrangement according to claim 1, in which said connecting structure comprises adjustable portions.
40. The optical arrangement according to claim 2, in which said thermally conducting element is adjustable.
41. The projection exposure system according to claim 3, in which said thermally conducting elements comprise adjustable portions.
42. The projection exposure system according to claim 4, in which said at least one part of a thermal conductor in thermal contact with said optical element is at least partially adjustable.
43. An optical arrangement, comprising:
a light source,

at least one optical element, and

a passive compensator of thermal effects caused by radiation from said light source, which compensator lacks rotational symmetry.

44. A projection exposure system for microlithography, comprising:
an optical element that is heated by radiation in a manner that lacks rotational symmetry, and
a cooling system that lacks rotational symmetry for said optical element, said cooling system comprising passive thermally conducting devices.

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